

(12) INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(19) World Intellectual Property Organisation  
International Bureau



(43) International Publication Date  
18 March 2004 (18.03.2004)

PCT

(10) International Publication Number  
**WO 2004/022588 A1**

- (51) International Patent Classification<sup>7</sup>: C07K 14/415, A61K 39/36, C12N 15/29, 5/10
- (74) Common Representative: MERCK PATENT GMBH; Frankfurter Strasse 250, 64293 Darmstadt (DE).
- (21) International Application Number: PCT/EP2003/008471
- (22) International Filing Date: 31 July 2003 (31.07.2003)
- (25) Filing Language: German
- (26) Publication Language: German
- (30) Priority Data: 02018157.4 19 August 2002 (19.08.2002) EP
- (71) Applicant (for all designated States except US): MERCK PATENT GMBH [DE/DE]; Frankfurter Strasse 250, 64293 Darmstadt (DE).
- (72) Inventors; and
- (75) Inventors/Applicants (for US only): SUCK, Roland [DE/DE]; Gellerstrasse 15, 22301 Hamburg (DE). FIEBIG, Helmut [DE/DE]; Bäckerweg 10, 21493 Schwarzenbek (DE). CROMWELL, Oliver [DE/DE]; Loenshöhe 2, 21465 Wentorf (DE).
- (81) Designated states (national): AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW.
- (84) Designated states (regional): ARIPO Patent (GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian Patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European Patent (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO, SE, SI, SK, TR), OAPI Patent (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

Published:

— with international search report

For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.

---

(54) Title: VARIANTS OF THE MAJOR ALLERGEN PHL P 1 FROM TIMOTHY GRASS

(57) Abstract: The invention relates to pharmaceutically important variants of the major allergen Phl p 1 from timothy grass, characterised in that a preparation, hitherto not possible, of monomeric molecules which are soluble and stable in physiological media can be carried out with the aid of prokaryotic expression systems and subsequent purification thereof.

---